

Title (en)
COMPUTERIZED RADIOGRAPHIC ANALYSIS OF BONE

Title (de)
COMPUTER-GESTÜTZTE RÖNTGEN-ANALYSE VON KNOCHENGeweBE

Title (fr)
ANALYSE RADIOGRAPHIQUE ASSISTEE PAR ORDINATEUR DES OS

Publication
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Application
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Priority

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Abstract (en)
[origin: WO9514431A1] A computerized method and system for the radiographic analysis of bone structure. Techniques include texture analysis for use in quantitating the bone structure and risk of fracture. Texture analysis of the bone structure incorporates directionality information, for example, in terms of the angular dependence of the RMS variation and first moment of the power spectrum of a ROI in a bony region. The system includes using dual energy imaging to obtain measures of both mass and bone structure with one exam. Specific applications are given for the analysis of regions within the vertebral bodies on conventional spine radiographs. Techniques include novel features that characterize the power spectrum of the bone structure and allow extraction of directionality features with which to characterize the spatial distribution and thickness of the bone trabeculae. These features are then merged using artificial neural networks in order to yield a likelihood of risk of future fracture.

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